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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,092	03/23/2004	Yasuyuki Nakamura	3274-040239	2540

7590

11/10/2005

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EXAMINER

CORDRAY, DENNIS R

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,092

Applicant(s)

NAKAMURA ET AL.

Examiner

Dennis Cordray

Art Unit

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/18/04, 2/4/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This is a first action on the merits of Application SN 10/807092.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6, 10 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Howland et al (WO 01/59213 A1).

Howland et al discloses a papermaking additive composition comprising an amide compound obtained by reacting one or more fatty acids and one or more polyamine of the formula



wherein R_1 is $\text{C}_2\text{-C}_4$ alkylene and n is 2, 3, 4 or 5 (Abstract). Howland et al also discloses that the above reaction is conducted at a temperature from about 300 °F to about 350 °F (149°C to 177°C) until water evolution ceases (i.e. – to completion) (p5, last par). Several examples of preferred polyamines and fatty acids are given (p7, 4th and 5th full pars) that are also recited in the instant specification (p 8 and Table 1, pp 25-26). Howland et al further discloses that a preferred reaction ratio is 2 moles of fatty acid per mole of polyamine (p4, last par), and that the preferred product has the formula



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wherein n and R₁ are as above, R₃, R₄ and R₅ are each either H or R₂C(O)- (where at least one of R₃, R₄ and R₅ is R₂C(O)- and at least one is H), and R₂ is the hydrocarbon sidechain of a saturated or unsaturated fatty acid and contains 13-22 carbon atoms (p7, 1st and 3rd full pars). If n is 2, R₃ is H and R₄ and R₅ are R₂C(O)-, then the ratio of tertiary amine to total amine is 0.67; if n is 3, the ratio becomes 0.75. The ratios lie within and thus anticipate the claimed range.

Howland et al discloses that the additive dispersion is added to the to the pulp slurry (p3, 2nd full par) in an amount of 2-4 wt percent of the pulp slurry (p 8, 2nd full par). The disclosed concentration of additive dispersion to pulp slurry lies within and thus anticipates the claimed range. Howland also discloses that the additives are used with one or more retention and drainage aids or flocculants, which include acrylamide copolymers (p9, 1st and last full pars).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

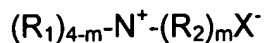
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 7-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howland et al in view of Vinson et al (6162329) and further in view of Dwiggins et al (6033523).

Howland et al does not disclose the use of quaternary compounds having the claimed formula.

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Vinson et al discloses that a softening agent can comprise quaternary compounds of the formula



wherein m is 1-3, R₁ is a C₁-C₆ alkyl group, hydroxyalkyl group, hydrocarbyl group, alkoxyated group or benzyl group; R₂ is a C₁₄-C₂₂ alkyl group, hydroxyalkyl group, hydrocarbyl group, alkoxyated group or benzyl group; and X is an anion (col 10, lines 58-67 and col 11, lines 1-4). The various combinations encompass the claimed formulae (2) and (3).

Vinson et al also discloses that wet strength agents such as polyacrylamides can be used in the papermaking process (col 9, lines 35-36).

Dwiggins et al discloses that one or more softeners are used in a papermaking process including quaternary ammonium salts and amine amides (col 9, lines 59-67). Dwiggins et al also teaches that commercially available softeners generally used are complex mixtures rather than a single agent (col 10, lines 12-16). Dwiggins et al further discloses that softeners can be added in the furnish or to the completely dried sheet (col 10, lines 17-24).

The art of Howland et al, Vinson et al, Dwiggins et al and the instant application are analogous as they pertain to softening compositions for paper products. It would have been obvious to a person of ordinary skill in the art at the time of the invention to add the additional quaternary ammonium softening agent of the claimed formula to the paper of Howland et al in view of Vinson et al and further in view of Dwiggins et al as a generally known practice.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure [Glade (2971931), Burke (4154618), Muller et al (5314721), Tamagawa et al (5474856) and Rusche et al (5686376)]. They pertain to other softening and sizing compositions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DRC


SEAN VINCENT
PRIMARY EXAMINER